

The documentation and process conversion measures necessary to comply with this revision shall be completed by 12 March 2004.

INCH-POUND

MIL-PRF-19500/718
12 December 2003

PERFORMANCE SPECIFICATION SHEET

SEMICONDUCTOR DEVICE, DIODE, SILICON, BIPOLAR TRANSIENT VOLTAGE SUPPRESSOR, TYPES 1N6950 THROUGH 1N6986, JAN, JANTX, JANTXV, AND JANS

This specification is approved for use by all Departments
and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of
this specification sheet and MIL-PRF-19500.

1. SCOPE

1.1 Scope. This specification covers the performance requirements for 5,000 watt, peak, pulse power, silicon, transient, voltage suppressor diodes. Four levels of product assurance are provided for each device as specified in MIL-PRF-19500.

1.2 Physical dimensions. See figure 1.

1.3 Maximum ratings. Maximum ratings are as shown in maximum test ratings herein (see 3.7), and as follows:

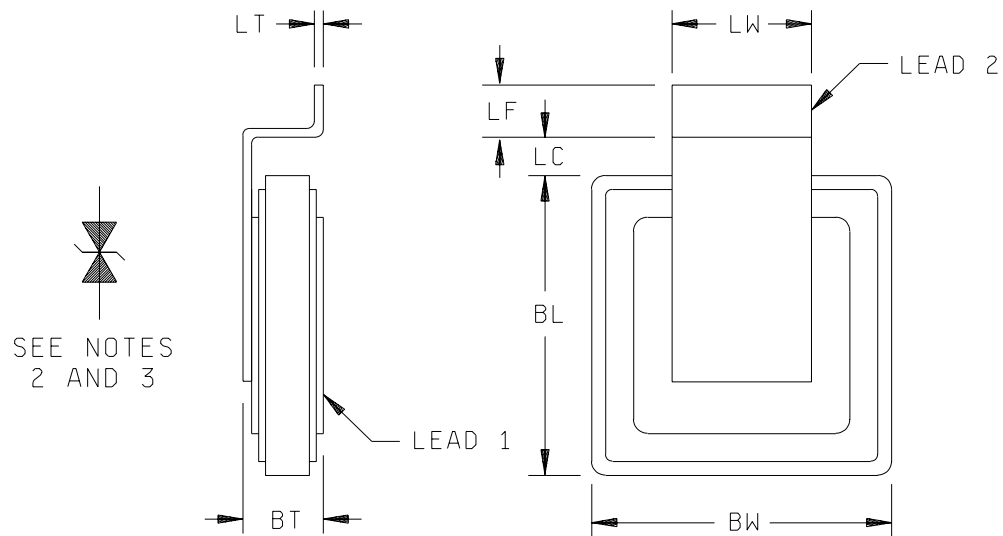
$P_{M(AV)} = 5.0 \text{ W}$ (derate at $33.35 \text{ mW/}^\circ\text{C}$ above $T_A = +25^\circ\text{C}$) (see figure 2, and 6.4).

$-65^\circ\text{C} \leq T_j \leq +175^\circ\text{C}$ (ambient), $-65^\circ\text{C} \leq T_{STG} \leq +175^\circ\text{C}$ (ambient).

$P_{PP} = 5,000 \text{ W}$ (see figure 3) at $t_p = 10/1000 \text{ } \mu\text{s}$ (see figure 4).

1.4 Primary electrical characteristics at $T_A = +25^\circ\text{C}$. Primary electrical characteristics are as shown in maximum test ratings herein (see 3.7).

Comments, suggestions, or questions on this document should be addressed to Defense Supply Center, Columbus, ATTN: DSCC-VAC, P.O. Box 3990, Columbus, OH 43216-5000, or emailed to alan.barone@dla.mil. Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at www.dodssp.daps.mil.



Symbol	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
BW	.0420	.0440	10.67	11.0	1
BL	.420	.440	10.67	11.0	3
BT	.085	.105			
LW	.195	.205	4.95	5.21	
LT	.010	.015	0.25	0.38	5
LF	.070	.080	1.78	2.03	
LC	.040	.070	1.02	1.78	4

NOTES:

1. Dimensions are in inches.
2. Symbol for internal construction of bipolar transient suppressor.
3. The bottom of the case is lead 1 and the gull wing is lead 2.
4. In accordance with ASME Y14.5M.

FIGURE 1. Physical dimensions.

2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, 4, or 5 of this specification. This section does not include documents cited in other sections of this specification or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in section 3, 4, or 5 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-PRF-19500 - Semiconductor Devices, General Specification for.

DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-750 - Test Methods for Semiconductor Devices.

(Copies of these documents are available online at <http://assist.daps.dla.mil/quicksearch/> or www.dodssp.dap.mil or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.3 Order of precedence. In the event of a conflict between the text of this document specification and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 General. The individual item requirements shall be as specified in MIL-PRF-19500 and as modified herein.

3.2 Qualification. Devices furnished under this specification shall be products that are manufactured by a manufacturer authorized by the qualifying activity for listing on the applicable qualified manufacturer's list before contract award (see 4.2 and 6.3).

3.3 Abbreviations, symbols, and definitions. Abbreviations, symbols, and definitions used herein shall be as specified in MIL-PRF-19500.

3.4 Interface and physical dimensions. The interface and physical dimensions shall be as specified in MIL-PRF-19500, and on figure 1 herein.

3.4.1 Lead finish. Lead finish shall be solderable in accordance with MIL-PRF-19500, MIL-STD-750, and herein. Where a choice of lead finish is desired, it shall be specified in the acquisition document (see 6.2).

3.4.2 Metallurgical bond construction. Metallurgically bonded construction is required. The bonding flow shall have flow points above 260°C.

3.5 Electrical performance characteristics. Unless otherwise specified, the electrical performance characteristics are as specified in 1.3, 1.4, and table I.

3.6 Electrical test requirements. The electrical test requirements shall be as specified in table I subgroup 2, table II, and table III.

3.7 Maximum test ratings. Test ratings for the devices specified herein shall be as shown in table IV.

3.8 Marking. Marking shall be in accordance with MIL-PRF-19500.

3.9 Workmanship. Semiconductor devices shall be processed in such a manner as to be uniform in quality and shall be free from other defects that will affect life, serviceability, or appearance.

4. VERIFICATION

4.1 Classification of inspections. The inspection requirements specified herein are classified as follows:

- a. Qualification inspection (see 4.2).
- b. Screening (see 4.3).
- c. Conformance inspection (see 4.4).

4.1.1 Sampling and inspection. Sampling and inspection shall be in accordance with MIL-PRF-19500, and as specified herein except lot accumulation shall be 3-months in lieu of 6-weeks.

4.2 Qualification inspection. Qualification inspection shall be in accordance with MIL-PRF-19500 and as specified herein.

4.2.1 Group E qualification. Group E qualification shall be performed herein for qualification or requalification only. In case qualification was awarded to a prior revision of the specification sheet that did not request the performance of table II tests, the tests specified in table II herein shall be performed on the first inspection lot to this revision to maintain qualification.

4.3 Screening (JANS, JANTX, and JANTXV levels only). Screening shall be in accordance with table IV of MIL-PRF-19500, and as specified herein. The following measurements shall be made in accordance with table I herein. Devices that exceed the limits of table I herein shall not be acceptable.

Screen (see table IV of MIL-PRF-19500)	Measurement	
	JANS level	JANTX and JANTXV levels
3	$T_{(high)} = +175^{\circ}\text{C}$	$T_{(high)} = +175^{\circ}\text{C}$
9, 10, 11	Not applicable	Not applicable
12	See 4.5.1	See 4.5.1
13	Interim electrical, delta, and table 1, subgroups 2 and 3, electrical parameters herein not applicable for this screen (performed in screen 12).	Interim electrical, delta, and table 1, subgroups 2 and 3, electrical parameters herein not applicable for this screen (performed in screen 12).

4.4 Conformance inspection. Conformance inspection shall be in accordance with MIL-PRF-19500 and as specified herein.

4.4.1 Group A inspection. Group A inspection shall be conducted in accordance with MIL-PRF-19500 and table I herein.

4.4.2 Group B inspection. Group B inspection shall be conducted in accordance with the conditions specified for subgroup testing in table VIa (JANS) and table VIb (JAN, JANTX, and JANTXV) of MIL-PRF-19500. Electrical measurements (end-points) and delta requirements shall be in accordance with the applicable steps of table III herein.

4.4.2.1 Group B inspection, table VIa (JANS) of MIL-PRF-19500.

<u>Subgroup</u>	<u>Method</u>	<u>Conditions</u>
B3	1056	-55°C to 100°C, 25 cycles, n = 22, c = 0.
	1051	-55°C to +175°C, 100 cycles, n = 22, c = 0. Surge not applicable.
B4		Not applicable.
B5	1027	Condition for accelerated steady-state operation life are as follows: See 4.5.2, T _A = +100°C (min); T _J = +225°C (min); t = 168 hours minimum.
B6		Not applicable.

NOTE: All electrical measurements and tests shall be performed twice, once in each direction.

4.4.2.2 Group B inspection, table VIb (JAN, JANTX, and JANTXV) of MIL-PRF-19500.

<u>Subgroup</u>	<u>Method</u>	<u>Conditions</u>
B2	1056	-55°C to 100°C, 10 cycles, n = 22, c = 0.
	1051	-55°C to 175°C, 25 cycles, n = 22, c = 0. Surge not applicable.
B3	1027	See 4.5.1, 1 ms pulse only (see 4.5.2).
B5		Not applicable

NOTE: All electrical measurements and tests shall be performed twice, once in each direction.

4.4.3 Group C inspection. Group C inspection shall be conducted in accordance with the conditions specified for subgroup testing in table VII of MIL-PRF-19500. Electrical measurements (end-points) and delta requirements shall be in accordance with the applicable steps of table III herein.

4.4.3.1 Group C inspection, table VII of MIL-PRF-19500.

<u>Subgroup</u>	<u>Method</u>	<u>Conditions</u>
C2	2036	Lead tension: Test condition A; weight = 5 pounds; $t = 15 \pm 3$ s.
C3		Not applicable
C5		Not applicable
C6	1026	See 4.5.1, (see 4.5.2).
C7	1018	
C8		Conditions for temperature coefficient of breakdown voltage are as follows: $I_{(BR)}$ = column 3 of table IV, $T_1 = +25^\circ\text{C} \pm 3^\circ\text{C}$, $T_2 = T_1 + 100^\circ\text{C}$; $n = 22$, $c = 0$.
C9		Conditions for maximum peak pulse current are as follows: See 4.5.3.a, (20 μs pulse only) 10 pulses; $n = 22$, $c = 0$.

NOTE: All electrical measurements and tests shall be performed twice, once in each direction.

4.4.4 Group E inspection. Group E inspection shall be conducted in accordance with the conditions specified for subgroup testing in appendix E, table IX of MIL-PRF-19500 and as specified herein. Electrical measurements (end-points) shall be in accordance with table I, subgroup 2 herein. See table III for delta limits when applicable.

4.5 Methods of inspection. Methods of inspection shall be as specified in the appropriate tables as follows.

4.5.1 Power burn-in (HTRB) and steady-state operation life test conditions. The test conditions and order of events shall be as follows:

- a. Pulse in accordance with 4.5.3.b, in polarity A 10 times (screening and group B) and 50 times (group C) at $T_A = +25^\circ\text{C}$.
- b. Pulse in accordance with 4.5.3.b, in polarity B 10 times (screening and group B) and 50 times (group C) at $T_A = +25^\circ\text{C}$.
- c. Read I_D in polarities A and B at $T_A = +25^\circ\text{C}$, remove defective devices and record the number of failures.
- d. Apply the working peak reverse voltage (V_{WM}) (column 4 of table IV) at polarity A at $T_A = +150^\circ\text{C}$ as follows:
 - (1) Forty-eight hours (JANTX and JANTXV) and 120 hours (JANS) for the screening test.
 - (2) One hundred seventy hours (JAN, JANTX, and JANTXV) for group B steady-state operation life test.
 - (3) Five hundred hours for group C steady-state operation life test.

- e. Read I_D in polarity A at $T_A = +25^\circ\text{C}$. Devices with $\Delta I_D > 50$ percent (100 percent for steady-state operation life) of the initial reading or 1 μA dc, whichever is greater shall be considered defective. Remove defective devices and record the number of failures. ^{1/}
- f. Apply the working peak reverse voltage (V_{WM}) (column 4 of table IV) at polarity B at $T_A = +150^\circ\text{C}$ as follows:
 - (1) Forty eight hours (JANTX and JANTXV) and 120 hours (JANS) for the screening test.
 - (2) One hundred seventy hours (JAN, JANTX, and JANTXV) for group B steady-state operation life test.
 - (3) Five hundred hours for group C steady-state operation life test.
- g. Read I_D in polarity B at $T_A = +25^\circ\text{C}$. Devices with $\Delta I_D > 50$ percent (100 percent for steady-state operation life) of the initial reading or 1 μA dc, whichever is greater shall be considered defective. Remove defective devices and record the number of failures. ^{1/}
- h. Read $V_{(BR)}$ in polarities A and B at $T_A = +25^\circ\text{C}$. Devices with $\Delta V_{(BR)} > 2$ percent (± 5 percent for steady-state operation life) of the initial reading shall be considered defective. Remove defective devices and record the number of failures. ^{1/}
- i. Read I_D in polarity A at $T_A = +25^\circ\text{C}$, remove defective devices and record the number of failures.

4.5.1.1 Group C steady-state operation life test (alternate procedure). When the group B, 340-hour life test is continued on test to 1,000 hours to satisfy the group C life test requirements, the test shall be performed as given in 4.5.1 with the following exceptions:

- a. In 4.5.1, steps a and b shall be moved and performed following step g.
- b. In 4.5.1, steps e and g shall be repeated after step a and b are performed and before step i is completed (step i may be omitted when this procedure is used).

4.5.2 Accelerated steady-state operation life (JANS). This test shall be conducted with the devices subjected to the breakdown current specified in column 10 of table IV in opposite polarities for 84 + 8, - 4 hours in each polarity. At the beginning of the test and at the end of each time period, the devices shall be temperature stabilized at $T_A = +25^\circ\text{C}$ and subjected to pulse conditions at the rate of one pulse per minute (max) for 10 pulses in accordance with 4.5.3 as specified.

4.5.3 Maximum peak pulse current (I_{PP}). The peak pulse currents specified in column 7 of table IV shall be applied while simultaneously maintaining a bias voltage of not less than the applicable voltage specified in column 4 of table IV, in the same polarity as the peak pulse current. The peak pulse current shall be applied with a current vs time waveform as follows (1 pulse per minute maximum):

- a. Pulse current shall reach 100 percent of I_{PP} at $t \leq 8 \mu\text{s}$ and decay to 50 percent of I_{PP} at $t \geq 20 \mu\text{s}$ for (see figure 5).
- b. Pulse current shall reach 100 percent of I_{PP} at $t \leq 10 \mu\text{s}$ and decay to 50 percent of I_{PP} at $t \geq 1 \text{ ms}$ for $t_p = 1 \text{ ms}$ (see figure 4).

4.5.4 Clamping voltage. The peak pulse clamping voltage shall be measured across the diode in a 1 ms time interval. The response detector shall demonstrate equipment accuracy of ± 3 percent. The peak clamping voltage as specified in column 6 of table IV shall be applicable to the 1 ms pulse of 4.5.3.b only.

^{1/} For the purpose of this test, the direction in which the device is first pulsed shall be considered polarity A and the reverse direction polarity B.

TABLE I. Group A inspection.

Inspection <u>1/</u>	MIL-STD-750		Symbol	Limits <u>2/</u>		Unit
	Method	Conditions		Min	Max	
<u>Subgroup 1</u>						
Visual and mechanical examination	2071					
<u>Subgroup 2 3/</u>						
Standby current	4016	DC method, $V_R = V_{WM}$ (column 4 of table IV)	I_D		Column 5	μA dc
Breakdown voltage	4022	$t_p \leq 300$ ms, duty cycle ≤ 2 percent, $I_{(BR)} =$ column 3 of table IV	$V_{(BR)}$	Column 2	Column 2	V dc
<u>Subgroup 3 3/</u>						
Minimum breakdown voltage	4022	$t_p \leq 300$ ms, duty cycle ≤ 2 percent, $I_{(BR)} =$ column 3 of table IV, $T_A = -55^\circ C$	$V_{(BR)}$	Column 9		V dc
<u>Subgroup 4 3/</u>						
Clamping voltage maximum (pulsed) (see 4.5.4)		$t_p = 10/1000 \mu s$ (see 4.5.3.b), $I_{PP} =$ column 7 of table IV	V_C		Column 6	V (pk)
<u>Subgroups 5, 6, and 7</u>						
Not applicable						

1/ For sampling plan, see MIL-PRF-19500.2/ Column references are to table IV.3/ All electrical testing shall be performed twice, once in each direction.

TABLE II. Group E inspection (all quality levels) for qualification only.

Inspection	MIL-STD-750		Sampling plan
	Method	Conditions	
<u>Subgroup 1</u>			45 devices c = 0
Thermal shock	1056	500 cycles, condition A, 0°C to +100°C.	
Temperature cycling	1051	500 cycles, condition C, -65°C to +175°C.	
Electrical measurements		See table III, steps 1, 2, and 5.	
<u>Subgroup 2</u>			22 devices c = 0
Life test		1,000 hours, see 4.5.1.	
Electrical measurements		See table III, steps 1, 2, 3, 4, and 5.	
<u>Subgroup 3</u>	2101		3 devices c = 0
Destructive physical analysis			
<u>Subgroup 4</u>			
Thermal impedance curves		Each supplier shall submit their (typical) design thermal impedance curves to the qualifying activity. In addition, the optimal test conditions and $Z_{\theta JX}$ limit shall be provided to the qualifying activity in the qualification report	
<u>Subgroup 5</u>			
Not applicable			
<u>Subgroup 6</u>			
Peak pulse current		See 4.5.3. I_{PP} shall be characterized by the supplier and this data shall be available to the government. Test shall be performed on highest and lowest voltage in each structurally identical grouping. Test until failure occurs on all devices within the chosen sample size to characterize each voltage, or until the rated I_{PP} is exceeded by 30%.	
Electrical measurements		See table III, steps 1 and 2.	
<u>Subgroup 7</u>			45 devices c = 0
Soldering heat	2031	1 cycle	

TABLE III. Groups B and C electrical and delta measurements. 1/ 2/ 3/ 4/

Step	Inspection	MIL-STD-750		Symbol	Limits <u>5/</u>		Unit
		Method	Conditions		Min	Max	
1.	Standby current	4016	DC method, $V_R = V_{WM}$ column 4 of table IV	I_D	Column 2	Column 5	μA dc
2.	Breakdown voltage	4022	$t_p \leq 300$ ms, duty cycle ≤ 2 percent, $I_{(BR)} =$ column 3 of table IV	$V_{(BR)}$		Column 2	V dc
3.	Standby current	4016	DC method; $V_R = V_{WM}$ (column 4 of table IV)	ΔI_D <u>6/</u>		100 percent of initial reading or 20 percent of column 5 of table IV, whichever is greater.	
4.	Breakdown voltage	4022	$t_p \leq 300$ ms, duty cycle ≤ 2 percent, $I_{(BR)} =$ column 3 of table IV	$\Delta V_{(BR)}$ <u>6/</u>		± 5 percent of initial value	
5.	Clamping voltage		$t_p = 10/1000$ μs (see 4.5.3.b); $I_{PP} =$ column 7 of table IV	V_C		Column 6	V (pk)

1/ All electrical testing shall be performed twice, once in each direction.

2/ The electrical measurements for table VIa (JANS) of MIL-PRF-19500 are as follows:

- a. Subgroup 3, see table III herein, steps 1, 2 and 5.
- b. Subgroup 5, see 4.5.1.

3/ The electrical measurements for table VIb (JANTX and JANTXV) of MIL-PRF-19500 are as follows:

- a. Subgroup 2, see table III herein, steps 1 and 2.
- b. Subgroup 3, see 4.5.1.
- c. Subgroup 6 see table III herein, steps 1, 2, 3 and 4.

4/ The electrical measurements for table VII of MIL-PRF-19500 are as follows:

- a. Subgroup 2 and 9, see table III herein, steps 1, and 2.
- b. Subgroup 6, see 4.5.1.

5/ Column references are to table IV.

6/ Devices which exceed the table I limits for this test shall not be accepted.

TABLE IV. Characteristics and ratings.

Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7		Col 8	Col 9	Col 10
Type	Breakdown voltage $V_{(BR)}$ at $I_{(BR)}$	Test current $I_{(BR)}$	Working peak reverse voltage V_{WM}	Maximum standby current I_D	Maximum clamping voltage V_C at I_{PP}	Maximum peak pulse current (I_{PP})		Maximum temperature coefficient of $V_{(BR)}$ $\alpha V_{(BR)}$	Minimum breakdown voltage at $I_{(BR)}$ $T_A = -55^\circ\text{C}$	Breakdown current $I_{(BR)}$ Maximum dc current $T_A = +25^\circ\text{C}$
	Min V dc	mA dc	V (pk)	μA dc	V (pk)	$t_p = 20 \mu\text{s}$ $t_r = 8 \mu\text{s}$	$t_p = 1 \text{ ms}$ $t_r = 10 \mu\text{s}$	$\alpha/^\circ\text{C}$	V dc	mA dc
1N6950	7.13	10	6.0	1000	11.3	2500	440	0.061	6.66	625.0
1N6951	7.79	10	7.0	500	12.1	2333	413	0.065	7.24	575.0
1N6952	8.65	10	7.5	200	13.4	2100	373	0.068	8.01	520.0
1N6953	9.50	1	8.5	50	14.5	1950	343	0.073	8.75	475.0
1N6954	10.50	1	9.0	10	15.6	1817	320	0.075	9.65	430.0
1N6955	11.40	1	10.0	5	16.7	1700	300	0.078	10.40	365.0
1N6956	12.40	1	11.0	5	18.2	1550	273	0.081	11.30	350.0
1N6957	14.30	1	12.0	5	21.2	1333	237	0.084	13.00	315.0
1N6958	15.20	1	13.0	5	22.5	1250	223	0.086	13.70	295.0
1N6959	17.10	1	15.0	5	25.2	1117	198	0.088	15.40	265.0
1N6960	19.00	1	17.0	5	27.7	1018	180	0.090	17.10	235.0
1N6961	20.90	1	18.0	5	30.6	917	163	0.092	18.80	215.0
1N6962	22.80	1	20.0	5	33.2	850	150	0.094	20.50	195.0
1N6963	25.70	1	22.0	5	37.5	750	133	0.096	23.00	175.0
1N6964	28.50	1	25.0	5	41.4	683	120	0.097	25.50	155.0
1N6965	31.40	1	28.0	5	45.7	617	110	0.098	29.00	140.0
1N6966	34.20	1	30.0	5	49.9	567	100	0.098	30.50	130.0
1N6967	37.10	1	33.0	5	53.9	518	93.3	0.100	33.10	120.0
1N6968	40.90	1	36.0	5	59.3	483	84.3	0.101	36.40	110.0
1N6969	44.70	1	40.0	5	64.8	433	77.3	0.101	39.80	100.0
1N6970	48.50	1	43.0	5	70.1	400	71.3	0.102	43.10	90.0
1N6971	53.20	1	47.0	5	77.0	367	65	0.103	47.30	85.0
1N6972	58.90	1	53.0	5	85.0	333	59	0.104	52.30	75.0
1N6973	64.60	1	58.0	5	92.0	300	54.3	0.104	57.30	70.0
1N6974	71.30	1	64.0	5	103.0	273	48.7	0.105	63.20	60.0
1N6975	77.90	1	70.0	5	113.0	250	44.3	0.105	69.00	55.0
1N6976	86.50	1	75.0	5	125.0	227	40	0.106	76.50	50.0
1N6977	95.00	1	82.0	5	137.0	207	36.7	0.106	84.10	47.5
1N6978	105.00	1	94.0	5	152.0	183	33	0.107	92.80	42.5
1N6979	114.00	1	100.0	5	168.0	167	29.7	0.107	100.00	37.5
1N6980	124.00	1	110.0	5	182.0	157	27.3	0.107	109.00	35.0
1N6981	143.00	1	128.0	5	213.0	133	23.3	0.108	126.00	30.0
1N6982	162.00	1	145.0	5	245.0	120	20.3	0.108	143.00	27.5
1N6983	171.00	1	150.0	5	261.0	113	19	0.108	151.00	26.0
1N6984	181.00	1	160.0	5	278.0	107	18	0.108	157.00	25.0
1N6985	190.00	1	170.0	5	294.0	100	17	0.108	169.00	23.5
1N6986	209.00	1	185.0	5	328.0	83	15.3	0.108	184.00	21.5

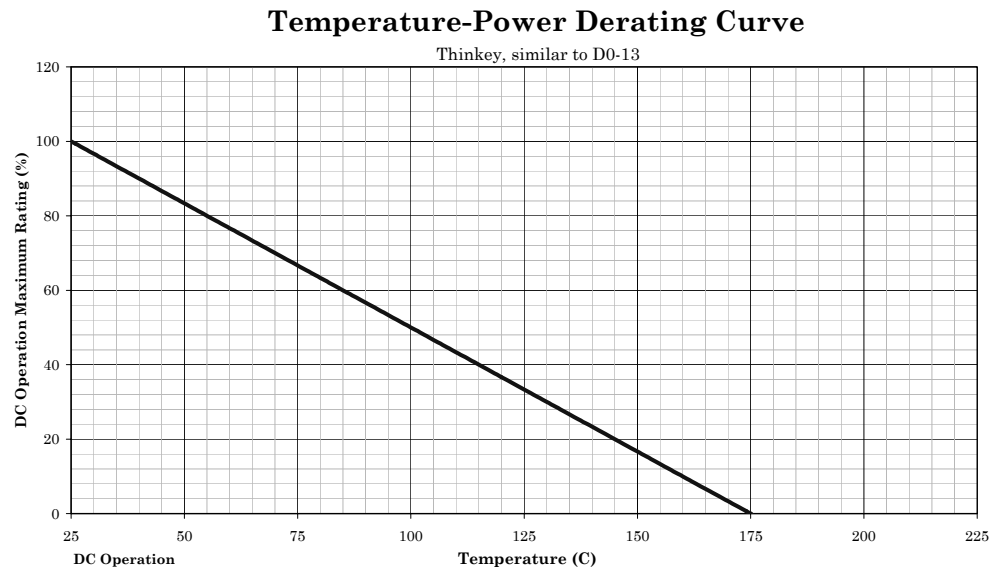


FIGURE 2. Derating curve.

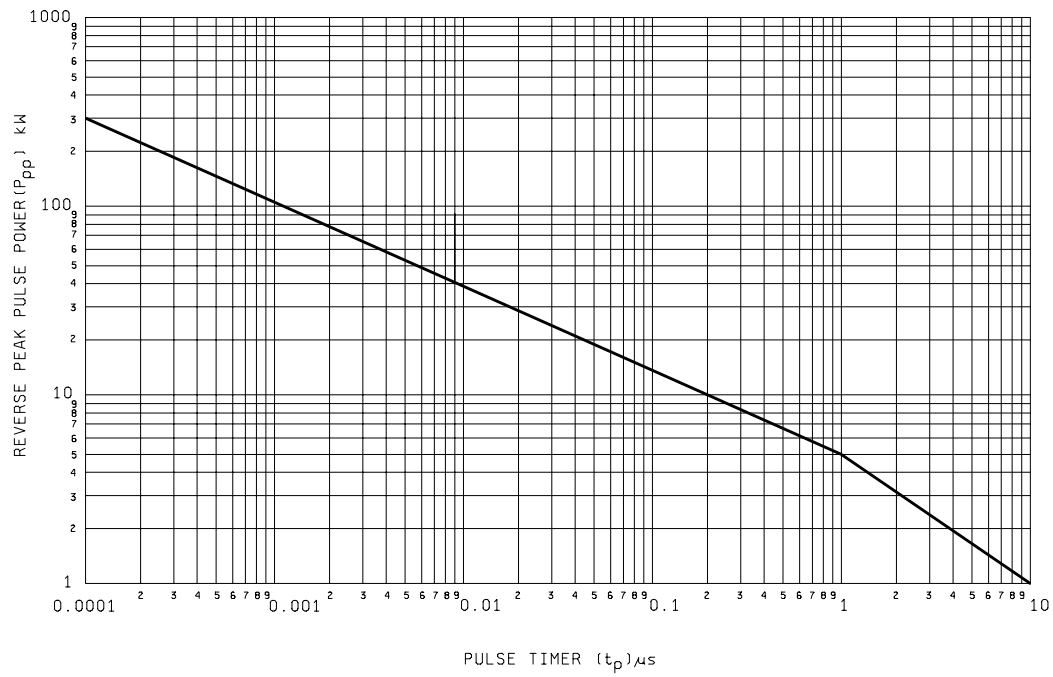
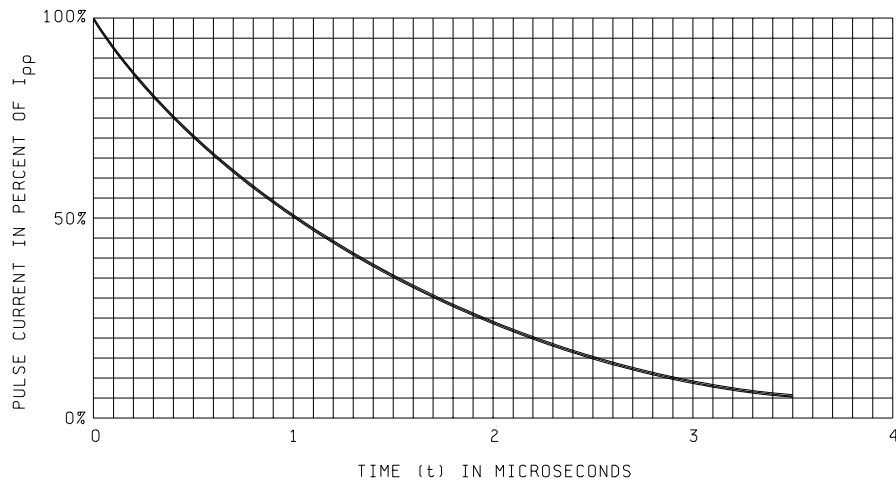
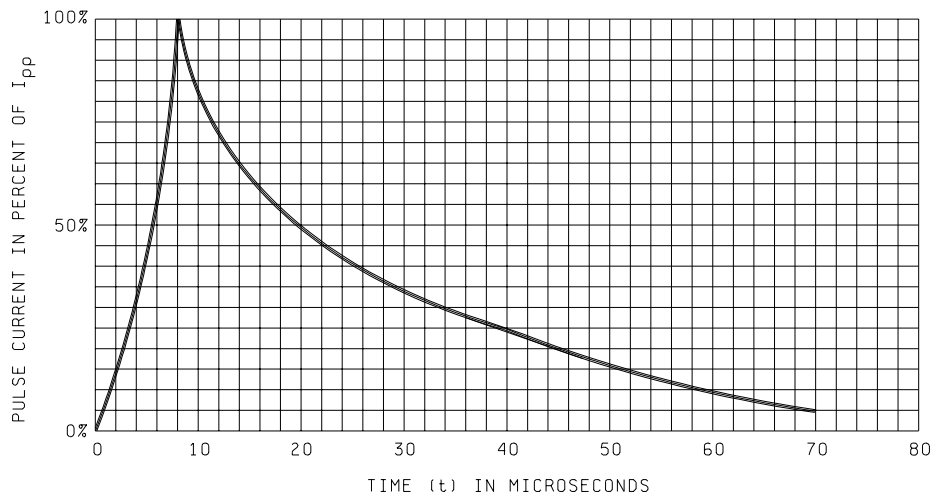


FIGURE 3. Peak pulse power versus pulse time.



NOTE: Pulse time duration is defined as that point where the pulse current decays to 50 percent of I_{pp} . (Rise time to 100 percent of I_{pp} = 10 μ s).

FIGURE 4. Current impulse waveform.



NOTE: Pulse time duration is defined as that point where the pulse current decays to 50 percent of I_{pp} . (Rise time to 100 percent of I_{pp} = 8 μ s).

FIGURE 5. Current impulse waveform.

5. PACKAGING

5.1 Packaging. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD or in-house contractor personnel, these personnel need to contact the responsible packaging activity to ascertain packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activities within the Military Service or Defense Agency, or within the Military Service's system commands. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The notes specified in MIL-PRF-19500 are applicable to this specification.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. Packaging requirements (see 5.1).
- c. Lead finish (see 3.4.1).
- d. Product assurance level and type designator.

6.3 Qualification. With respect to products requiring qualification, awards will be made only for products which are, at the time of award of contract, qualified for inclusion in Qualified Manufacturer's List (QML No.19500) whether or not such products have actually been so listed by that date. The attention of the contractors is called to these requirements, and manufacturers are urged to arrange to have the products that they propose to offer to the Federal Government tested for qualification in order that they may be eligible to be awarded contracts or orders for the products covered by this specification. Information pertaining to qualification of products may be obtained from, Defense Supply Center, Columbus, DSCC-VQE, P.O. Box 3990, Columbus, OH 43216-5000, or e-mail vqe.chief@dla.mil.

6.4 Steady state power rating. This rating is not relevant for most applications.

Custodians:
 Army - CR
 Navy - EC
 Air Force - 11
 NASA - NA
 DLA - CC

Preparing activity:
 DLA - CC
 (Project 5961-2776)

Review activities:
 Army - MI
 Air Force - 19, 99

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at www.dodssp.daps.mil.